

U.S. Patent Application Serial No. 10/802,027
Response to Final OA dated April 6, 2009

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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A filter for trapping foreign matter comprising:

an inflow chamber into which a fluid flows;

an outflow chamber from which flows the fluid that has flown into said inflow chamber; and

a filter element, occupying an annular space surrounding a hollow portion, and having an outer curved surface, end surfaces and an inner curved surface defining the hollow portion, said filter element partitioning said two chambers, wherein

said inflow chamber has a structure arranged substantially the entire length of the inflow chamber such that substantially all the fluid that flows into said inflow chamber is spouted up from a bottom portion of said inflow chamber in a rising flow that is forcibly directed radially by said structure toward said inner curved surface of said filter element along substantially the entire length of said filter element to fall upon and enter the filter element at said inner curved surface.

Claim 2 (Previously Presented): The filter for trapping foreign matter of claim 1, wherein said inflow chamber has an inlet in the upper part thereof and a portion of said structure directs the fluid that has flown in from said inlet toward the lower part of said inflow chamber, directs it toward the bottom portion of said inflow chamber, causes it to rise from the bottom portion, and guides it

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so that it falls upon the filter element.

Claim 3 (Previously Presented): The filter for trapping foreign matter according to claim 2, wherein the cross section area of a flow path between said portion of said structure and the bottom surface of said inflow chamber is narrowed so as to increase the flow velocity of said fluid.

Claim 4 (Previously Presented): The filter for trapping foreign matter according to claim 1, wherein said inflow chamber has an inlet in the bottom portion thereof and is constructed so that the flow of the fluid that has flown from the inlet into said inflow chamber rises from said bottom portion.

Claim 5 (Previously Presented): The filter for trapping foreign matter according to claim 4, wherein said structure forcibly guides to said filter element the rising flow of the fluid that has flown from the bottom portion of the inlet into said inflow chamber.

Claim 6 (Previously Presented): The filter for trapping foreign matter according to claim 1, wherein said inflow chamber has a streamline shape preventing the stagnation of the fluid.

Claim 7 (Previously Presented): The filter for trapping foreign matter according to claim 1, further comprising a differential pressure sensor for detecting the difference in pressure between said

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inflow chamber and said outflow chamber.

Claim 8 (Currently Amended): A filter for trapping foreign matter comprising:
an inflow chamber into which a fluid flows;
an outflow chamber from which flows the fluid that has flown into said inflow chamber;
a filter element, occupying an annular space surrounding a hollow portion, and having an outer curved surface, end surfaces and an inner curved surface defining the hollow portion, said filter element partitioning said two chambers; and

a guide, held inside said inflow chamber and extending substantially the entire length of the inflow chamber, for forcibly guiding the flow of substantially all the fluid that has flown into said inflow chamber radially toward said inner curved surface of said filter element along substantially the entire length of said filter element to fall upon and enter the filter element at said inner curved surface, wherein flow of the fluid is directed along an outer surface of said guide.

Claim 9 (Previously Presented): The filter for trapping foreign matter according to claim 8, further comprising a differential pressure sensor for detecting the difference in pressure between said inflow chamber and said outflow chamber.

Claim 10 (Previously Presented): A filter for trapping foreign matter comprising:
an inflow chamber into which a fluid flows;

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an outflow chamber from which flows the fluid that has flown into said inflow chamber and
a filter element partitioning said two chambers, wherein
said filter element comprises:

a target trapping element for trapping foreign matter which is the target, said target foreign
matter having a target size, said target trapping element having a mesh size smaller than the target
size of the target foreign matter; and

a fall-off preventing element, having a mesh size slightly larger than the target size of the
target foreign matter, for preventing said foreign matter which is the target trapped by said target
trapping element from falling off, the fall-off preventing element being provided on the side surface
of the inflow path of said target trapping element, the target trapping element and the fall-off
preventing element trapping the foreign matter within the fall-off preventing element.

Claim 11 (Previously Presented): The filter for trapping foreign matter according to claim
10, further comprising a differential pressure sensor for detecting the difference in pressure between
said inflow chamber and said outflow chamber.

Claim 12 (Cancel)